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Ophthalmic optics - Spectacle frames and sunglasses electronic catalogue and identification - Part 3: Technical information

Optique ophtalmique — Catalogue de monture de lunettes et identification — Partie 3: Technical information

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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ISO 10685-1 was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

ISO 10685 consists of the following parts, under the general title *Ophthalmic optics — Spectacle frames electronic catalogue and identification*:

- *Part 1: Product identification and electronic catalogue product hierarchy*
- *Part 2: Commercial information*
- *Part 3: Technical Information*

Ophthalmic optics - Spectacle frames and sunglasses electronic catalogue and identification - Part 3: Technical information

1 Scope

The scope of this document is:

1. to define technical information and file format used for trading spectacle frames and sunglass frames and to optimize the trading and processing of lenses for a given frame.

Note: Scope includes sunglass clip-ons.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8624, *Ophthalmic optics — Spectacle frames — Measuring system and terminology*

ISO 10685-1, *Ophthalmic optics — Spectacle frames electronic catalogue and identification — Part 1: Product Identification and electronic catalogue product hierarchy*

ISO 10685-2, *Ophthalmic optics — Spectacle frames electronic catalogue and identification — Part 2: Commercial Information*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 Technical Information

Information needed to optimize the trading and processing of lenses for a given frame.

4 Symbols (and abbreviated terms)

4.1 DECIMAL Length

The decimal lengths listed do not include the decimal point.

4.2 SIGNED DECIMAL Length

The signed decimal lengths listed do not include the decimal point or the sign.

4.3 BINARY Length

Data items in Binary format are not limited in length.

5 Technical Information

5.1 Identification

Any technical information requires the appropriate frame identification as described in ISO 10685-1. Commercial information is available in ISO 10685-2.

5.2 Technical data for frames item catalogue

The following tables define the fields used to identify the Technical Information portion of the Electronic Frame Item Catalogue (Table 1). Additional information and examples are available in Annex A.

- The “name” column defines the tag and attribute names within the XML file (see Annex B for schema definition)
- The “O/M” column indicates whether a field is optional (O) or mandatory (M)
- The “format” column indicates the data type ex: TEXT
- The “length” column indicates the field character length
- The “description” column is the description of the field.

Table 1 — Spectacle and Sunglass Frame Information for the Technical Portion of the Electronic Frame Catalogue

NAME	O/M	FORMAT	LENGTH	DESCRIPTION
Former	M	BOOLEAN	1	LENS FORMER AVAILABILITY
Hbox	O	DECIMAL	Max 4	LENS WIDTH (MM)
Vbox	O	DECIMAL	Max 4	LENS HEIGHT (MM)
Dbi	O	DECIMAL	Max 4	DISTANCE BETWEEN LENSES
Tmplng	M	DECIMAL	3	OVERALL LENGTH OF SIDE
Fed	O	DECIMAL	4	FRAME EFFECTIVE DIAMETER
Ledg	O	TEXT	1	TYPE OF LENS EDGE
Gdepth	O	DECIMAL	Max 3	GROOVE DEPTH IN THE LENS OF A SEMI-RIMLESS
Gwidth	O	DECIMAL	Max 3	GROOVE WIDTH IN THE LENS OF A SEMI-RIMLESS
Panto	O	INTEGER	Max 2	FRAME PANTOSCOPIC ANGLE (ANGLE OF SIDE)
Fcrv	O	INTEGER	3	FRAME CURVE IN DIOPTERS
Ffang	O	INTEGER	Max 2	FACE FORM ANGLE
Traceweb	O	BOOLEAN	1	TRACE DATA IS AVAILABLE ON WEBSITE
Ftrc	O	TEXT	Max 50	FRAME TRACE DATA LINK
TRCFMT	O	BINARY	-	TRACE DATA
Drillpnts	O	TABLE	-	SEE TABLE 2
Ftyp	O	TEXT	1	FRAME MATERIAL
Rxable	O	BOOLEAN	1	ABILITY TO INSERT AND RETAIN

				PRESCRIPTION LENSES IN THE FRAME
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Table 2 — Drilling Points

NAME	O/M	FORMAT	LENGTH	DESCRIPTION
DRILLE	O	BINARY	-	DRILLING POINTS OF THE FRAME
DRILL	O	BINARY	-	DRILLING POINTS OF THE FRAME (DEPRECATED VERSION)

For sample XML file, see Annex C

Annex A (normative)

Field descriptions

The following table contains detailed field descriptions and examples for the electronic frame catalogue.

Table AA.1 — Field of descriptions and examples for the electronic frame catalogue

NAME	EXAMPLE	COMMENTS/CODIFICATION	Additional comments	ebXML Mapping
Former	false	Boolean indicating if lens physical former is available.	Physical former is equivalent to lens shape or pattern as defined in ISO 11380. Flagged as true (available) or false (not available).	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Hbox	499	See figure TBD	The horizontal distance between the vertical tangents of the frame groove. If the frame is either semi-rimless or three piece the measurement is taken using the lens edge. (mm)	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Vbox	277	See figure TBD	The vertical distance between the horizontal tangents of the frame groove. If the frame is either semi-rimless or three piece the measurement is taken using the lens edge. (mm)	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Dbl	160	See figure TBD	The minimum distance between lenses measured on the horizontal between the vertical tangents to the apices of the frame groove. If the frame is either semi-rimless or three piece the measurement is taken using the lens edge. (mm)	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Tmplng	135	ISO 8624	This is the length from the intersection of the hinge screw's axis with the median plane of the joint to the end of the temple and parallel to the centerline of it, the drop having been straightened.	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Fed	54.1	DCS 3.08 or latest version	Frame effective diameter (twice the longest radius from box centre to apex of the frame groove) in millimetres. If the frame is either semi-rimless or three piece the endpoint of the radius is taken using the lens edge.	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Ledg	A	A – Bevel B – Flat C – Groove D – Mix	Type of lens edge (similar to DCS 3.08 - Etyp)	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Gdepth	1.2	DCS 3.08 or latest version	Groove depth in the lens when the Pclass of the frame is "SemiRimlessMountSpectacleFrameClass" or "SemiRimlessMountSunglassClasses" (mm)	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Gwidth	0.8	DCS 3.08 or latest version	Groove width in the lens when the Pclass of the frame is "SemiRimlessMountSpectacleFrameClass" or "SemiRimlessMountSunglassClasses" (mm)	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Panto	12	ISO 7998	The angle formed by the front and	ReferencedOpticProduct-->

			side with the sides in the open position, as viewed from the side of the frame. The numerical value in degrees is determined by measuring the angle between the centerline of the side and a line drawn perpendicular to the vertical axis of the corresponding eye of the front	DesignatedOpticProductClassification-->ApplicableOpticProductCharacteristic
Ffang	6	ISO 8624	The angle between the plane of the spectacle front and the plane of the right lens shape, or of the left lens shape. The right or left face form angle is regarded as positive if the temporal side of the right or left lens plane is closer to the head than the plane of the spectacle front.	ReferencedOpticProduct-->DesignatedOpticProductClassification-->ApplicableOpticProductCharacteristic
Traceweb	1	0 – Indicates that the trace is not available on a website 1 – Indicates that the trace is available on a website	Indicates if the trace data is available on a website	ReferencedOpticProduct-->DesignatedOpticProductClassification-->ApplicableOpticProductCharacteristic
Ftrc	ftp://xyz.com	DCS 3.08 or latest version	Lens shape available from an Internet site. If R&L not symmetrical, the Internet site should have both (right and left) lens shape trace files. This is intended to be used for lens surface calculations and not for cutting lenses to fit to frame.	ReferencedOpticProduct-->DesignatedOpticProductClassification-->ApplicableOpticProductCharacteristic
Trcfmt	TRCFMT=1;400;U;L;F<CR/LF> R=2517;2450;2379;2318;2247;2168;2086;2014;1958;1923<CR/LF> > R=1909;1914;1941;1983;2033;2089;2140;2200;2277;2371<CR/LF> > ... R=1922;1939;1989;2072;2184;2322;2471;2599;2645;2579<CR/LF> > A=0;90;180;270;360;450;540;630;720;810<CR/LF> > A=900;990;1080;1170;1260;1350;1440;1530;1620;1710<CR/LF> > ... A=35100;35190;35280;35370;35460;35550;35640;35730;35820;35910<CR/LF> > ZFMT=1;100;U;L;F<CR/LF> > Z=322;331;342;328;314;308;300;295;288;280<CR/LF> > ... Z=316;318;324;328;333;343;349;352;357;362<CR/LF> > ZA=0;360;720;1080;1440;1800;2160;2520;2880;3240<CR/LF> > ... ZA=32400;32760;33120;33480;33840;34200;34560;34920;35280;35640<CR/LF> >	DCS 3.08 or latest version. The minimal number of tracing points shall be 36. Recommended fields are: R, ZFMT,	This is intended to be used for lens surface calculations. This is not intended to be used for cutting lenses to fit to frame.	ReferencedOpticProduct-->DesignatedOpticProductClassification-->ApplicableOpticProductCharacteristic
Drillpnts			This table can support multiple	

			drilling points	
Drill		DCS 3.08 or latest version	Drilling points of the frame. This is the older version	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Drille	B ; C; -17.0;10.32;2.3;-15.0;10.32;1.5 ;1; A;-15.0;5.0	DCS 3.08 or latest version	Drilling points of the frame.	ReferencedOpticProduct--> DesignatedOpticProductClassification--> ApplicableOpticProductCharacteristic
Ftyp	2	DCS 3.08 or latest version Items to propose: 5 - Propionate 6 - Nylon 7 - Grilamide 8 - Wood 9 – Horn 10 – Carbon fiber	Material of the lens rim. Intended to be used for laboratory processing, e.g. some plastic materials need different heat or no heat;A multi parameter list for recommended heat level, solvents, lens fit.	ReferencedOpticProduct--> ComposedOpticMaterial--> ApplicableOpticProductCharacteristic
Fcrv	6	DCS 3.08 or latest version.	Curve of the frame rim in dioptries.	
Rxable	1	0 – Frame does not have the ability to insert and retain prescription lenses 1 – Frame has the ability to insert and retain prescription lenses	Determines the ability to insert and retain prescription lenses into the frame	

Annex B
(normative)

Electronic Frame Catalogue Schema (Technical Section)

The schema supporting the catalogue can be found on the following websites:

<http://www.edi-optique.org/standard/>

http://www.thevisioncouncil.org/members/content_255.cfm?navID=457

<http://www.anfao.it/>

Annex C
(informative)

Electronic Frame Catalogue XML Sample (Technical Section)

Tbd

Annex D(informative)

Bibliography

DCS 3.08 Data Communication Standard